



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,389	02/21/2001	Mitsuru Nakajima	1614.1127	5409

21171 7590 09/23/2004

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

DASS, HARISH T

ART UNIT	PAPER NUMBER
----------	--------------

3628

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Km

Office Action Summary	Application No. 09/788,389	Applicant(s) NAKAJIMA ET AL.	
	Examiner Harish T Dass	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2001.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-13 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. See for example Page 24 line 6 "includes the steps of".

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement

Art Unit: 3628

thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409

U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. In re Toma at 857.

In Toma, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in State Street Bank & Trust Co. v. Signature Financial Group, Inc. never addressed this prong of the test. In State Street Bank & Trust Co., the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See State Street Bank & Trust Co. at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the

Art Unit: 3628

patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the *Freeman-Walter-Abele* test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, Claims 1-7 have no connection to the technological arts. None of the steps indicate any connection to a computer or technology. Therefore, the claims are directed towards non-statutory subject matter. To overcome this rejection the Examiner recommends that Applicant amend the claims to better clarify which of the steps are being performed within the technological arts; for example: "computer is used to calculate average ..."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3628

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mital (US 5,903,652).

Re. Claim 1, Mital discloses a secure transaction system apparatus and method provide for the auditing of secure messages in a computer network, providing security systems using encryption techniques to authenticate or "digitally sign" a document and readable medium [see entire document particularly, Abstract; Figures; C1 L1 to C6 LL42], (a) supplying a first user with a matching key for a prospective transaction [C1 L42 to C2 L62], (b) receiving at a second user the matching key supplied to the first user [C1 L42 to C2 L62], and (c) matching the key supplied from the first user to the second user against the key supplied to the first user, after the second user has received the key from the first user [C1 L42 to C2 L62].

Re. Claim 2, Mital discloses wherein the authentication system authenticates the identity of the users prior to the step of supplying the first user with the matching key [C4 L47 to C5 L25; C10 L36-L47].

Re. Claim 5, Mital discloses wherein the step of supplying matching keys supplies different keys to both users [C1 L42 to C2-L2].

Art Unit: 3628

Re. Claim 6, Mital discloses (d) supplying a matching key to the second user in a prospective transaction, (e) receiving at the first user the matching key supplied to the second user, and (f) matching the key supplied from the second user to the first user with the key supplied from the first user to the second user [C1 L2 to C3 L9].

Re. Claim 7, Mital discloses step of payment of the transaction based on the match results obtained in the authentication method [C1 L2 to C3 L9; C8 L43 to C9 L4; C29 L59 to C30 L65].

Re. Claim 8, claim 8 is rejected with same rational as claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mital.

Re. Claims 3-4, Mital discloses credit confirmation for a transaction (proposed transaction is within a previously determined credit) and payment authorization (wherein the authentication system determines whether the proposed transaction satisfies

Art Unit: 3628

previously determined conditions for a transaction) [Figures 7-8A; C5 L50 to C6 L7; C8 L43-L57; C14 L54 to C15 L7] Mital does not explicitly disclose monetary limit. However, this step is commonly known to credit card holders and financial institutions issuing credit cards and is commonly known as credit limit (daily debit limit for ATM users), which are predetermined by the financial institutions to prevent over charging, loss and theft. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the disclosure of Mital and include monetary limit to assure the transaction is within the credit limit granted to the cardholder for avoid major loss.

5. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mital in view of Lee et al (hereinafter Lee – US 4,912,762).

Re. Claim 9, Mital discloses a secure transaction system apparatus and method provide for the auditing of secure messages in a computer network, providing security systems using encryption techniques to authenticate or "digitally sign" a document, and readable medium [see entire document particularly, Abstract; Figures; C1 L1 to C6 LL42]. Mital does not explicitly disclose a first transmitting unit that transmits information concerning a prospective transaction to an authentication system that supplies different matching keys to the users, a first receiving unit that receives the matching keys to the transaction sent from the authentication system in response to transmitted information concerning the prospective transaction, a second transmitting unit that exchanges matching keys

Art Unit: 3628

between the users, and transmits the exchanged matching keys to the authentication system for matching, and a second receiving unit that receives match results from the authentication system. However, Lee discloses management of cryptographic keys and the above steps (not disclosed by Mital) [see entire document particularly Abstract; C1 L1 to C4 L15; C5 L29 to C6 L30; C8 L20 to C10 L25] to key sharing between end points and encoding messages for transmitting and receiving between nodes. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the disclosures of Mital and Lee to provide a method and apparatus for use in deriving the end-to-end component, which are useful in encryption.

Re. Claims 10-13, claims 10-13 are rejected with same rational as claim 9.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR ' 1.111 (c) to consider the references fully when responding to this action.

IBM, 1995, "VW/ESA OpenEdition DCE – Introduction and Implementation Noteboook" discloses Distributed Computing Environment and two-party authentication (selected pages).

US 6,327,578 to Linehan, Dec. 4, 2001 "Four-party credit/debit payment protocol" discloses a method, system, program, and method of doing business for electronic commerce that expands the role of a "thin" consumer's wallet by providing issuers with an active role in each payment. This is achieved by adding an issuer

gateway and moving the credit/debit card authorization function from the merchant to the issuer. This enables an issuer to independently choose alternate authentication mechanisms without changing the acquirer gateway. It also results in a significant reduction in complexity, thereby improving the ease of implementation and overall performance.

US 5,982,896 to Cordery, Nov. 9, 1999 "System and method of verifying cryptographic postage evidencing using a fixed key set" discloses a method for controlling keys used in the verification of encoded information generated by a transaction evidencing device and printed on a document comprises the steps of generating a plurality of random verifier master keys to obtain a set of verifier master keys consisting of a fixed number of keys; generating at least one pointer by applying a pseudorandom algorithm to data unique to the transaction evidencing device; calculating a plurality of verifier token keys to obtain a verifier token key set corresponding to the set of verifier master keys; encrypting the verifier token key set with a privacy key; and distributing the set verifier token keys and the privacy key to verifiers. The token keys are a function of the verifier master keys and a code valid for a limited time. The pointer algorithm is an appropriate symmetric key cryptographic algorithm and the code is function of a date dependent parameter. The master keys are distributed to postal and vendor data centers.

US 6,378,072 to Collins, Apr. 23, 2002 "Cryptographic system" discloses a cryptographic system and methods of using public key cryptography.

Deng et al, 1997 "A New On-Line Cash Check Scheme" discloses a device for electronic commerce, security, anonymity and micropayment using software solution (pages 111-116).

Kevin Henry, publish date not known "Getting Started With PGP" discloses public key encryption system where the user's public key is readily available (10 pages).

Popek et al, December 4, 1979 "Encryption and Secure Computer Network" discloses secure network and key management.

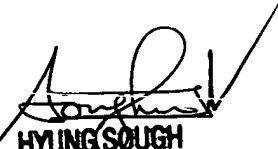
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harish T Dass whose telephone number is 703-305-4694. The examiner can normally be reached on 8:00 AM to 4:50 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S Sough can be reached on 703-308-0505. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Harish T Dass
Examiner
Art Unit 3628

9/9/04


HYUNG SOUGH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600